

4. Which of the following expressions are polynomials? Explain how you know.

a) $2 + 3n$ b) $3\sqrt{x}$
 c) $-5m + 1 + 2m^2$ d) 7
 e) $\frac{1}{x^2} + \frac{1}{x} + 1$ f) $\frac{1}{2}s$

5. Is each expression a monomial, binomial, or trinomial? Explain how you know.

a) $3t + 4t^2 - 2$ b) $5 - 3g$
 c) $9k$ d) 11

8. Identify the polynomials that can be represented by the same set of algebra tiles.

a) $x^2 + 3x - 4$
 b) $-3 + 4n - n^2$
 c) $4m - 3 + m^2$
 d) $-4 + r^2 + 3r$
 e) $-3m^2 + 4m - 3$
 f) $-h^2 - 3 + 4h$

9. Name the coefficients, variable, and degree of each polynomial. Identify the constant term if there is one.

a) $5x^2 - 6x + 2$ b) $7b - 8$
 c) $12c^2 + 2$ d) $12m$
 e) 18 f) $3 + 5x^2 - 8x$

10. One student says, “ $4a$ is a monomial.”
 Another student says, “ $4a$ is a polynomial.”
 Who is correct? Explain.

11. Use algebra tiles to model each polynomial.
 Sketch the tiles.

a) $4x - 3$
 b) $-3n - 1$
 c) $2m^2 + m + 2$
 d) $-7y$
 e) $-d^2 - 4$
 f) 3

12. Match each polynomial with its corresponding algebra tile model.

a) $r^2 - r + 3$
 b) $-t^2 - 3$
 c) $-2v$
 d) $2w + 2$
 e) $2s^2 - 2s + 1$

Model A



Model B



Model C



Model D



Model E



13. Which polynomial does each collection of algebra tiles represent?
Is the polynomial a monomial, binomial, or trinomial? Explain.



14. Write a polynomial with the given degree and number of terms. Use algebra tiles to model the polynomial. Sketch the tiles.

- a) degree 1, with 2 terms
- b) degree 0, with 1 term
- c) degree 2, with 1 term
- d) degree 2, with 3 terms and constant term 5

15. Identify which polynomials are equivalent.
Explain how you know.



17. Write an expression that is *not* a polynomial.
Explain why it is not a polynomial.

20. The *stopping distance* of a car is the distance the car travels between the time the driver applies the brakes and the time the car stops. The polynomial $0.4s + 0.02s^2$ can be used to calculate the stopping distance in metres of a car travelling at s kilometres per hour on dry pavement.

- a) Determine the stopping distance for each speed:
 - i) 25 km/h ii) 50 km/h iii) 100 km/h
- b) Does doubling the speed double the stopping distance? Explain.